L 4396-66 EWT(d)/EWT(m)/EWP(w)/ETC/EPF(n)-2/EWG(m)/EWP(t)/EWP(k)/EWP(b)/EWA(c)
ACC NR: AP5020981 IJP(c) JD/HW/JG/EM SOURCE CODE: UR/0182/65/000/008/0048/0049

AUTHOR: Shukhov, Yu

ORG: none

TITLE: Seminar on hot and cold pressure working of new hard-to-deform metals and alloys

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 8, 1965, 48-49

TOPIC TAGS: metalworking, metallurgic conference, material deformation, metallurgic research, high strength metal

ABSTRACT: A seminar on Hot and Cold Pressure Working of New Hard-to-Deform Metals and Alloys was held in April 1965 in Moscow. Representatives of research insfitutes and leading industrial enterprizes presented several papers. Professor A. D. Tomlenov reviewed the present state of the theory of plasticity, methods of analysis of the stress state in the pressure working of metals, methods of predicting a probable fracture in deformed metal, and methods of preventing fractures. He also made numerous recommendations for designing processes for pressure working of hard-to-deform metals and alloys.

Card 1/3 UDC: 002.704.31

The re... provide a sufficient ba... without cracks.

K. S. Kovalev spoke of the properties and ...
...f tantalum and niobium. V. V. Ris reported on modern methods of forming (primarily bending and stretch forming) molybdenum-, and niobium-base alloy sheets 0.2—0.5 mm thick. A. S. Chauzov discussed deep drawing of nickel-, niobium-, and tantalum-base alloy sheets, and A. Ye. Shelest spoke on pressure working of titanium-base alloys.

ATD Press: 4121-F

SUB CODE: MM / SUBM DATE: none

Card 3/3

SHUKHOVA, Ye.V.

Studying the dynamics of sleep in hypertension by the actographic method. Klin.med. 32 no.9:80-84 S '54. (MLRA 7:12)

1. Iz kardiologicheskogo otdeleniya (zav. kandidat meditsinskikh nauk M.I.Gorshkov) Gosudarstvennogo bal'neologicheskogo instituta na Kavkazskikh Mineral'nykh Vodakh.

(SLEEP,
in hypertension, dynamic aspect)
(HYPERTENSION, physiology,
sleep, dynamic aspects)

SHUKHOVA, Ye.V., starshiy nauchnyy sotrudnik

Dynamics of the bioelectrical activity of the cerebral cortex in hypertension with chronic cerebral circulatory insufficiency under the influence of treatment by radon baths of varying concentrations. Uch.zap.Pyat.gos.nauch.-issl.bal'n.inst. 3:84-95 '60. (MIRA 15:10)

(ELECTROENCEPHALOGRAPHY) (CEREBROVASCULAR DISEASE)
(RADON--THERAPEUTIC USE) (HYPERTENSION)

SHUKHOVA, Ye.V.

Bioelectrical activity of the brain in children with sequelae of encephalitis. Zhur. nevr. i psikh. 64 no.7:986-989 '64. (MIRA 17:12)

1. Detskoye otdeleniye Pyatigorskoy kliniki instituta kurortologii i fizioterapii (direktor - kand. med. nauk Ye.A. Kamenskiy).

SHUKHOVITSKIY, A. A.

(The use of artificial radio activity in industry; lecture) Moskva, "Pravda," 1951. 22 p.

KONSTANTINOV, Vasiliy Ivanovich; MANSUROV, Nikolay Nikolayevich; SIMONOV, Anton Fedorovich; FEDOROV-KOROLEV, Anatoliy Alekseyevich; SHUKHOVITSKIY, B.Ya., redaktor; VORONIN, K.P., tekhnicheskiy redaktor

[Collection of problems in theoretical electrical engineering] Sbornik zadach po teoreticheskoi elektrotekhnike. Pod obshchei red. N.N.Mansurova. Izd. 2-oe, dop. Moskva, Gos.energ. izd-vo, 1957. 175 p. (MLRA 10:10)
(Electric engineering--Problems, exercises, etc.)

Determination of the population of atomic levels by the line reversal method. N. P. Penkin and A. M. Shukhtin. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 12, 370-81(1948). The nos. of atoms in the states $7p^2P^\circ_{1/2}$ and $7p^2P^\circ_{3/2}$ in Cs vapor under 0.012 and 0.07 mm. Hg were detd., in an elec. discharge, by the formula $N_k/N_i = (g_k/g_i)e^{-\Delta\epsilon/kT}$ where $\Delta\epsilon$ = energy difference between the k and i levels, (g = the statistical wts.), from optical detns. of the reversal temp. T_r, with simultaneous detns. of the electron temp. T_e and the electron concn. c by the probe method. T_r falls uniformly with increasing pressure and current intensity i; as a first approximation, c increases with i^2, faster at the lower pressure. With increasing i, the difference between T_r and T_e diminishes; it also decreases rapidly with increasing pressure of the Cs vapor; thus, with 1 amp. and 0.012 mm. Hg, $T_e - T_r = 140°K.$, whereas with 0.07 mm. Hg it is only 180°K. At sufficient current intensity, T_r becomes identical with T_e. The ratios of the nos. of atoms in the 2 above $^2P^\circ$ states, relative to the $6^2S_{1/2}$ ground state of Cs, increases with c, faster at the lower pressure. At the higher pressure, it practically ceases to increase at $c = 10^{13}$. N. Thon

Sci.-Res. Phys.-Inst. Leningrad State U.

SHUKHTIN, A. M.

USSR/Physics
Spectrum Analysis
Furnaces

Aug 48

"Excitation Mechanisms of Spectrum Lines in a High-Temperature Vacuum Furnace," S. E. Frish, N. P. Penkin, A. M. Shukhtin, Phys Inst, Leningrad State U, 3 pp

"Zhur Eksper i Teoret Fiz" Vol XVIII, No 8

Shows by spectrum line conversion method, that in a high-temperature vacuum furnace, atoms are equally distributed on excitation level. Temperature corresponds to distribution within limits of measuring error and coincides with temperature of furnace wall. Determined, from this, temperature characteristics of spectrum line excitation in a vacuum furnace.

PA 9/49T92

SHUKHTIN, A. M.

(3)

Excitation of spectral lines in a high-temperature vacuum furnace. N. P. Penkin and A. M. Shukhtin (Leningrad State Univ.). *Uchenye Zapiski Leningrad Gosudarst. Univ. A.A. Zhdanova* No. 120, *Ser. Fiz. Nauk* No. 7, 28–35 (1949); cf. *Zhur. Ekspil. i Teoret. Fiz.* 17, 305(1947); *C.A.* 42, 1709c, 3789defgh; 46, 6932a.—With a modified King-type vacuum furnace (4–5 mm. pressure) with a W light source (2100–2700°K.), and a self-collimating spectrograph with an aluminized mirror and a const. focal point from infrared to ultraviolet, P. and Sh. studied the spectra of Ba and of Sr. The studies show that the energy-distribution for various atoms and ions obeys the Boltzmann thermal distribution law. The following lines were observed: for Ba 5853.69, 5826.30, 5818.93, 5800.3, 5777.7, 5510.11, 4934.09, 4902.88, 4877.65, 4726.45, 4700.45, 4619.98; for Sr, 4967.72, 4962.25, 4892.01, 4876.07, 4872.48, 4868.74, 4855.67, 4832.07, 4215.52, 4077.71. F. H. Rathmann

USSR/Physics - Density of Gases 1 Jan 52

"Determining the Density of Vapors in the Positive Column of an Electric Discharge by D. S. Rozhdestvenskiy's Version of the Crookes Method," A. M. Shukhtin

"Dok Ak Nauk SSSR" Vol 82, No 1, pp 41-43

Shukhtin acknowledges the guidance of S. E. Frish, Corr Mem, Acad Sci USSR, and the use of Prof G. S. Kvater's interferometric app . He finds that despite previous contradictory results there still

230T91

remains the possibility of subject detn according to the "interesting works" of L. A. Sena (cf. "Symposium of Articles Devoted to 70th Birthday of Academician Ioffe," 1950). Submitted by Acad A. A. Lebedev 1 Nov 51.

230T91

SHUKHTIN, A. M.

SHUKHTIN, A. M.

62

Determination of vapor density behind the anode and behind the cathode of a discharge tube. A. M. Shukhtin (A. A. Zhdanov State Univ., Leningrad). *Doklady Akad. Nauk S.S.S.R.* 92, 289–91(1953)(Engl. translation issued as *U.S. Atomic Energy Comm.* NSF-tr-193, 4 pp.(1953); cf. *C.A.* 47, 5788c.—Expts. were conducted to det. the effect of discharge current on vapor d. in the regions behind the anode and cathode of a discharge tube. Discharge tubes were constructed in such a way that the vapor column behind the anode, or the cathode as the case may be, passed into an arm having plane-parallel windows at each end. This arm was introduced into one of the branches of a Rozhdestvenskiy interferometer combined with a spectrograph. When the optical system was illuminated with a continuous spectrum, interference fringes could be observed showing a dispersion curve near the absorption line. Visual observations showed that the switching on of the discharge current was accompanied by a scarcely noticeable change in the slope of the interference fringes near the absorption line. To det. the amt. of change in the vapor d. caused by the discharge current, a photograph was made of the hooked fringes in the region of the first Cs doublet (λλ 8943–8521 A.). Results indicate that the discharge current produces practically no change in the vapor d. behind the anode and cathode of a discharge tube. For a current of 5 amp., the change in concn. of neutral atoms behind the anode is less than 1%. The method of superposing interference photographs is recommended where it is desired to detect extremely small differences in vapor ds. and for investigating processes connected with small changes in the concn. of normal or excited atoms. James C. Eubanks

SHUKHTIN, A. M.

Shukhtin, A.M.

USSR

The effect of the discharge on the vapor density in gas discharge tubes. A. M. Shukhtin. *Vestnik Leningrad. Univ.* 9, No. 8, *Ser. Mat., Fiz. i Khim.* No. 3, 129–49(1954).—By means of a new method, called the compensation method, the vapor density is detd. in a discharge tube and the effect of the discharge on the density is studied. The results which are obtained agree with those obtained by the method of Rozhdestvenskiĭ (*Anomalous Dispersion in Metal Vapors*, 1951). It was shown that the discharge current causes a sharp decrease in the concn. of the normal (not excited) atoms in the discharge interval. The rate of this fall in concn. decreases with an increase in the discharge current. J. Rovtar Leach

USSR/ Physics - Analysis methods

Card 1/1 Pub. 43 - 15/97

Authors : Shukhtin, A. M.

Title : Concentrations of normal atoms in a discharge

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, 253-254, Mar-Apr 1954

Abstract : The concentrations of normal atoms in a positive column of an electrical discharge in cesium and mercury vapors were determined by the D. S. Rozhdestvenskiy method. The role of normal N atom concentrations in the gas discharge process is explained. The factors bringing about a reduction in normal atom concentration in a discharge gap are listed. Ions and excited atoms were found to constitute only a small part of the total number of particles present in the discharge gap. The distribution of vapor density in the discharge tube is discussed. Table.

Institution : The A. A. Zhdanov State University, Physics Institute, Leningrad

Submitted : .....

SHUKHTIN, A.M.

Optical determination of density and composition modification of vapor mixtures in the discharge span. Izv. AN SSSR Ser. fiz. 19 no.1:15 Ja-F '55. (MIRA 8:9)

1. Fizicheskiy institut Leningradskogo gosudarstvennogo universiteta imeni A.A.Zhdanova
(Spectrum analysis) (Spectrometer)

SHUKHTIN, A. M., and YEGOROV, V. S., Moscow

"The Observation of Anomalous Dispersion in the Momentary Processes," a paper presented at the Third International Conference on Ionization Phenomena in Gases, Venice, 11-15 Jun 57.

SO: B-3,087,498

AUTHORS: Shukhtin, A.M. and Yegorov, V.S. 51-4-25/25

TITLE: An assembly for observation of the anomalous dispersion in processes of short duration. (Ustanovka dlya nablyudeniya anomal'noy dispersii pri kratkovremennykh protsessakh).

PERIODICAL: "Optika i Spektroskopiya" (Optics and Spectroscopy" 1957, Vol2, No.4, pp.543-544 (U.S.S.R.)

ABSTRACT: D.S.Rozhdestuenskii's "hook" method (Anomalous dispersion, published by the Acadamy of Sciences of U.S.S.R., 1951) of observation of anomalous dispersion requires exposures from several seconds to several minutes. To study transient processes (e.g. pulse discharges, shock waves, wire explosions etc.) the present authors used the "hook" method with a strong light-source of the pulse type. This light-source was a glass (30 cm long, 8 mm dia.) discharge tube with hollow cathodes. It was filled with H_2 or air at several mm of Hg. The pulse was produced by 20 μF capacitors charged to 9-11 kV. The pulse duration was less than 30-50 μsec. The pulse produced very bright continuous spectrum from 6500 to 2200 Å (it is reported by other workers that such pulses produce also strong infra-red radiation). Interference patterns in the visible region were studied with a diffraction grating spectrograph while

Card 1/2

AUTHORS: Shukhtin, A. M., Yegorov, V. S. SOV/48-22-6-18/28

TITLE: The Observation of Anomalous Dispersion in Processes of Short Duration (Nablyudeniya anomal'noy dispersii pri kratkovremennykh protsessakh)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol. 22, Nr 6, pp. 711-713 (USSR)

ABSTRACT: The so-called "orotch" (kryuk) method developed by D. S. Rozhdestvenskiy concerns the obtaining of spectrograms made in interferometric systems with low light intensity. The endeavor is made here to use this method for spectrometric investigations of processes having the character of an explosion and other cases in which exposure is restricted to some milliseconds. The light source used was a synchronized flashlight source as described in this paper (Ref 1), and the spectrograph used is described by reference 2. The authors emphasize the fact that only an experiment was intended to be carried out for the purpose of finding out whether it is possible to employ the method mentioned. In this experiment a discharge tube (Fig 1) was used which was introduced into the beam of the interferometer. The tube was filled with

Card 1/3

neon- or hydrogen gas. A cloud of sodium vapor was produced in its center by means of a heater. These vapors diffused and formed a metal mirror on the glass surface near the heater. A current discharge pulse (~800 A) was sent through the tube, which was synchronized with the flashlight. The "crotches" near the lines of the yellow doublet of sodium were photographed immediately before the pulse, during the pulse, as well as several microseconds after it. On this occasion it was found that the anomaly vanishes during the current impulse, whereas after the pulse it is several times greater than before. This is explained as a consequence of the stripping of Na atoms from the glass surface. Moreover, the lack of anomaly during the pulse is explained by the transition of atoms to states of higher energy as well as by the effect of negative dispersion. After the pulse dispersion increases rapidly and dies down again in the course of 800-1000 μ seconds. This process corresponds to the theory of the concentration of the excited atoms (Ref 3). In the same manner experiments were carried out with mercury- and magnesium vapor; the results

obtained do, however, not agree with those obtained previously (with Ne). In conclusion the authors stress the necessity of a further investigation of this problem. There are 2 figures and 3 references, 1 of which is Soviet.

ASSOCIATION: Fizicheskiy institut Leningradskogo gos. universiteta im. A. A. Zhdanova (Physics Institute of Leningrad State University imeni A. A. Zhdanov)

1. Spectroscopy 2. Interferometers--Performance
3. Flashlights--Applications 4. Discharge tubes--Applications

9(6)
AUTHORS: Shukhtin, A. M., Yegorov, V. S. SOV/54-59-3-11/21

TITLE: Observation of Anomalous Dispersion by the Method of D. S. Rozhdestvenskiy in the Pulse Discharge in Neon

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 3, pp 61-66 (USSR)

ABSTRACT: In strong gas discharges the atoms are in highly excited state which may be determined from the energy distribution. The concentration of the atoms in the various energetic states may be determined by various methods, the most important being the "hook"-method by Rozhdestvenskiy. This method was used in the present paper for condensed pulse discharges. The scheme of the apparatus is described in an earlier paper (Ref 2). The pulse source for the continuous spectrum is represented in figure 1. The square pulses and bell-shaped pulses with different amplitudes were investigated. Spectrograms were obtained which correspond to various stages of the pulses, and the concentration of the absorbing atoms N and their number f were determined herefrom. Figure 2 gives the results for an atom excitation in the $^3P_2$-level. Maximum dispersion was attained at the end of the

Card 1/3

plane part of the pulse. Figure 3 shows the time dependence of the occupation of a level after the switching off of the current for various levels. Moreover, the influence exercised by the structure of the backside of the pulse on the atom distribution is investigated. It was found that the change of dispersion depends on the steepness of the decrease of the discharge current. After the switching off a strong rise takes place. In the plane range of the pulse, however, no such dependence was to be observed. In a bell-shaped pulse of a duration of 16 μ sec with an amplitude of 60 a a concentration of the atoms excited in the $^3P_2$ level of $2.8.10^{13}/cm^3$ could be observed. Figure 4 shows the variation with time of the concentration N for various levels. With an increase in pressure in the discharge tube from 1-4 torr the value of dispersion increased to a maximum. The concentration of the excited atoms in the first part of the excitation wave is very low and increases only in the plane part. After the current has been switched off it strongly increases. This sharp increase is explained by the

recombination of ions with electrons. In conclusion, the authors thank S. E. Frish for the supervision of the work. There are 4 figures and 7 references, 5 of which are Soviet.

SUBMITTED: April 14, 1959

9.3150

SOV/51-7-6-30/38

AUTHOR: Shukhtin, A.M.

TITLE: Determination of the Gas Density and the Electron Concentration in a Discharge Using an Interferometric Method

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, No 6, pp 838-839 (USSR)

ABSTRACT: The author determined variations of the gas density and the electron concentration at the axis of a straight discharge tube (100 cm long, 6 cm diameter) filled with argon and excited with square pulses of ~200 μsec duration and 600 A amplitude. The author deduced these variations from changes of the refractive index, measured with a two-beam Rozhdestvenskiy interferometer. The discharge tube was placed in one beam and a compensator - in the other beam. The interferometer was crossed with a quartz spectrograph; the discharge tube was illuminated using a source emitting a continuous spectrum (a capillary-pulse discharge tube). In the focal plane of the spectrograph an undisturbed interference pattern was observed and any disturbance in the discharge tube was accompanied by displacement of the interference bands. The spectrograms obtained show successive regions of diffuse and sharp interference bands (cf. figure on p 839). The sharp bands occur when the interference pattern displacement (due to changes of the gas density, $\Delta\rho$, and/or the electron concentration, ΔN_e) amounts to an integral

Card 1/2

SHUKHTIN, A.M.; YEGOROV, V.S.

Observation of anomalous dispersion by the D.S.Rozhdestvenskii method in pulse discharge in neon. Vest.LGU 14 no.16:61-66 '59. (MIRA 12:10)
(Neon) (Electric discharge through gases)

SHUKHTIN, A.M.

24(4),24(7) SOV/53-69-1-10/11

AUTHORS: Bogdanova, I. P., Bochkova, O. P., Zaydel', A. N., Zakharova, V. M., Kagan, Yu. M., Kaliteyevskiy, N. I., Penkin, N. P., Chayka, M. P., Shukhtin, A. M., Lipis, L. V.

TITLE: Sergey Eduardovich Frish (Sergey Eduardovich Frish). On the Occasion of His Sixtieth Birthday (k shestidesyatiletiyu so dnya rozhdeniya)

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 69, Nr 1, pp 165-167 (USSR)

ABSTRACT: On June 19th, 1959, the well-known Soviet physicist S. E. Frish, who made a name for himself especially in the field of spectroscopic optics, attained the age of sixty. He began his scientific work as a student at the fiziko-matematicheskoye otdeleniye Leningradskogo universiteta (Physico-mathematical Department of Leningrad University) under D. S. Rozhdestvenskiy. After completing his university studies he continued his work at the Gosudarstvennyy Opticheskiy institut (Optical State Institute). Since 1934 he held a chair for optics and supervised work at the Physics Department, first as dean and later as director of the Nauchno-issledovatel'skiy fizicheskiy institut LGU (Scientific Research Institute for Physics at Leningrad

Card 1/3

16

State University). In 1946 he was appointed Corresponding Member, AS USSR, and took active part in the work of the Academy. He is deputy chairman of the spectroscopy Committee, chief editor of the periodical "Optika i spektroskopiya" and member of the International Committee for spectroscopy at the UNESCO. He first concentrated his scientific interest on atomic energy, the systematics of atomic spectra, the Zeeman effect in the sodium and potassium spectrum, as well as upon experimental spectroanalytical investigations. In 1930 he started a cycle of works, which was devoted to optical methods of investigating the properties of the atomic nucleus. (An investigation of the interaction between nucleus and electron shell led to the discovery of the hyperfine structure of spectra). He investigated the hyperfine structure of Na and set up a rule concerning the interrelation between nucleus-spin and parity. He further investigated the fine structure of isotope mixtures, the excitation mechanism of the higher atomic levels, and questions of the interaction of elementary

Card 2/3

particles. Finally, mention is made of his pedagogical activities, especially his courses in physics (which are partly held together with A. V. Timoreva). There are 1 figure and 42 Soviet references.

Card 3/3

2

69845

24.3300

S/051/60/008/03/033/038
E201/E191

AUTHORS: Shukhtin, A.M., Yegorov, V.S. and Tumakayev, G.K.

TITLE: A Continuous-Spectrum Emission Source Capable of Single Short-Duration Flashes

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 3, pp 423-424 (USSR)

ABSTRACT: The authors describe a light source with continuous emission spectrum capable of single short-duration flashes of great intensity. The main part of the source is a demountable capillary discharge tube (Fig 1). The casing of the tube (13) is a thick Perspex cylinder inside which a porcelain capillary (14) of 3-4 mm internal diameter is fitted. Electrodes (1) and (10) are attached to the cylinder and the outer ends of the electrodes are fitted with windows (2). One of these windows is made of quartz or glass and is used for transmission of the flashes. Under working conditions the windows become dimmed by deposits on them and have to be cleaned or replaced regularly. A lens (5) is used to produce a parallel light beam. An auxiliary (starting) electrode (9) is placed in the middle of the discharge capillary. To reduce the strong inductance of the

Card 1/3

S/051/60/008/03/033/038
E201/E191

A Continuous-Spectrum Emission Source Capable of Single Short-Duration Flashes

discharge circuit the electrodes were connected directly to terminals of a capacitor (0.56 μF, charged to 25-30 kV) used to produce the discharges. The air pressure in the discharge capillary could be regulated so that at a given steady potential difference across the tube spontaneous discharges would not occur and that when a firing pulse was fed to the tube the discharge would occur rapidly and easily. In the tube described here the optimum air pressure was 130-150 mm Hg. The electrical circuit is shown in Fig 2. The authors used a hydrogen thyratron TGI1-400/16 which ensured that a discharge was produced about 1 μsec after an appropriate positive signal was applied to the thyratron grid. Fig 3, I, shows the oscillograms of the discharge current (curve a) and the optical flash (curve б); the optical flash existed only during the first half-period of the discharge, i.e. about 3-5 μsec. Fig 3, II, shows the oscillograms of the optical flash and time marks which represent 1 μsec each. The spectra of the flashes were found to be continuous

69845
S/051/60/008/03/033/038
E201/E191

A Continuous-Spectrum Emission Source Capable of Single Short-Duration Flashes between 2200 and 6500 Å.

Card 3/3

There are 3 figures.

SUBMITTED: November 12, 1959

YEGOROV, V.S.; SHUKHTIN, A.M.

Afterglow and its relation to gas density in a pulse discharge in Ne. Opt. i spektr. 9 no. 6:794-796 D '60. (MIRA 14:1)
(Neon) (Electric discharges through gases)

SHUKHTIN, A. M., Dr. Phys-Math Sci. (diss) "Interferometric Methods and Some Uses of Them for Investigation of Plasma," Leningrad, 1961, 12 pp (Leningrad State Univ), 180 copies (KL Supp, 12-61, 249).

S/051/61/010/004/001/007
E032/E514

24, 2120 (1049, 1482, 1502)

AUTHOR: Shukhtin, A. M.

TITLE: Interference Method of Determining Gas Density and Electron Concentration in a Plasma

PERIODICAL: Optika i spektroskopiya, 1961, Vol.10, No.4, pp.436-442

TEXT: Consider a two-beam interferometer, for example, the Rayleigh interferometer. Suppose that the interferometer is crossed with a spectrograph and white light is used. Under these conditions an interference pattern is observed in the focal plane of the spectrograph. When the path lengths in the two tubes of the interferometer are equal, the "undisturbed" pattern is obtained. When the gas in one of the tubes is disturbed the interference bands are shifted. Suppose that the gas in one of the tubes is disturbed so that its density changes by $\Delta\rho$. The change in the path length, expressed in wavelengths, is then

$$k' = \frac{LA\Delta\rho}{\lambda} \qquad (2)$$

where L is the length of the gas-containing tube under investigation and the dispersion is assumed to be of the form

20726
S/051/61/010/004/001/007
E032/E514

$$n - 1 = A\rho \tag{1}$$

If the "disturbed" and "undisturbed" patterns are superimposed, then, depending on the path lengths and wavelengths, there will be regions in the composite picture in which the fringe pattern will be sharp and also sections in which it will be diffuse. The diffuse regions will occur whenever $LA\Delta\rho = (k + 1/2)\lambda$. For two diffuse positions one can, therefore, write the set of equations

$$\left.\begin{aligned} LA\Delta\rho &= \frac{2k_1+1}{2}\lambda_1, \\ LA\Delta\rho &= \frac{2k_2+1}{2}\lambda_2, \\ k_2 &= k_1 + i. \end{aligned}\right\} \tag{3}$$

where λ_1 and λ_2 can be determined from the comparison spectrum and i is the number of sharp fringes between successive diffuse positions and can be counted directly on the pattern. The unknowns $\Delta\rho$, k_1 and k_2 can easily be determined from Eq.(3). If the change in the refractive index is due to ionization, then one can

Interference Method of ...

proceed in a similar way and determine the electron concentration. In fact, the dispersion equation for an electron gas can be written down in the form

$$n-1=-\frac{N_e e^2}{2\pi mc^2}\lambda^2, \tag{4}$$

(4)

and hence for two diffuse positions

$$\frac{LN_e e^2}{2\pi mc^2}\lambda_1=\frac{2k_1+1}{2},$$
$$\frac{LN_e e^2}{2\pi mc^2}\lambda_2=\frac{2k_2+1}{2}, \tag{5}$$
$$k_2=k_1+i.$$

(5)

From these equations one can determine N_e, k_1 and k_2. If both density and electron concentration changes are occurring, then the appropriate generalization of Eqs. (3) and (5) will be

Card 3/4

$$\left.\begin{aligned} LA\Delta\rho+\frac{LN_e e^2}{2\pi mc^2}\lambda_1^2&=\frac{2k_1+1}{2}\lambda_1,\\ LA\Delta\rho+\frac{LN_e e^2}{2\pi mc^2}\lambda_2^2&=\frac{2k_2+1}{2}\lambda_2,\\ LA\Delta\rho+\frac{LA_e e^2}{2\pi mc^2}\lambda_3^2&=\frac{2k_3+1}{2}\lambda_3,\\ k_2=k_1+i,\quad k_3&=k_1+i_2. \end{aligned}\right\} \quad (6)$$

(6)

In the latter case three diffuse positions are necessary in order to determine N_e and $\Delta\rho$. The method is convenient for studying both stationary processes and pulsed processes. In the latter case the source of radiation must be pulsed in synchronism with the process under investigation. In the second part of the paper the author discusses special aspects of the method, such as, the determination of the direction in which the fringes shift, occurs, the determination of concentrations and density changes from fractional fringe shifts and the accuracy with which N_e and $\Delta\rho$ can be measured. The discussion is carried through in general terms. No detailed numerical or experimental data are given. Acknowledgments are expressed to S. E. Frish for discussion and interest in this work. There are 2 figures and 6 Soviet references.

SUBMITTED: May 23, 1960

Card 4/4

27175
S/057/61/031/009/015/019
B104/B102

10.1410

24.4300

AUTHORS: Dunayev, Yu. A., Tumakayev, G. K., and Shukhtin, A. M.

TITLE: Interference method by Rozhdestvenskiy for studying gasdynamic processes in shock tubes

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 9, 1961, 1119-1126

TEXT: The authors describe an experimental arrangement for studying gasdynamic processes by an interference method suggested by D. S. Rozhdestvenskiy (Raboty po anomal'noy dispersii v parakh metallov (Papers on anomalous dispersion in metal vapors), Izd. AN SSSR, 1951). They give preliminary data on the concentration of normal and excited Hg atoms, the temperature of the gas flow behind a shock wave, and on values of the number f for some Hg lines. Figs. 1 and 2 show the experimental arrangement. The low-pressure chamber was made of copper and had a cross section of 38 by 76 mm; the distance between the diaphragm separating the low-pressure from the high-pressure section of the chamber, and the window was 1250 mm. The shock wave was generated by fracture of the diaphragm caused by the nitrogen or helium pressure of 5-30 atm produced in the high-pressure

Card 1/8

Interference method by ...

chamber. Differently thick diaphragms were used. The spectral apparatus used consisted of a spectroscope with a plane diffraction grating and a concave mirror with a focal length of 175 cm. The authors studied interference patterns of mercury vapors the shock wave in the spectral range of 2500-5800 Å for Mach numbers of 6-11.5. The concentration of excited atoms increased with rising M; this increased the dispersion around the lines of the secondary series. The number of lines, near which hook-shaped dispersion patterns appeared, also increased. Dispersion was observed for M~6.5 near nine lines of the secondary series, for M~8 near 14 lines of the secondary series, and for M~9.5 near 18 lines of the secondary series. For M~11.5 a hook-shaped pattern was observed only near the lines of the visible triplet. At this value of M the shock wave propagated with 2000 m/sec. Table 1 gives the numbers N_k of atoms excited for M = 6.4-11.7 as determined from the dispersion patterns near the visible Hg triplet (4047 Å, 4358 Å, 5461 Å). Table 2 gives temperatures of Hg vapor for three Mach numbers. The data obtained permit some statements on the transition probabilities, or the numbers f:

Card 2/8

SHUKHTIN, A.M.

Method of superposition of scanned interference patterns in spectral regions close to the absorption line. Opt. i spektr. 14 no.2: 208-213 F '63. (MIRA 16:5)
(Interferometry) (Absorption spectra)

ACCESSION NR: AP4009479 S/0051/63/015/006/0839/0840

AUTHOR: Yegorov,V.S.; Kozlov,Yu.G.; Shukhtin,A.M.

TITLE: Concentrations of excited atoms in pulse discharges in a mixture of helium and neon

SOURCE: Optika i spektroskopiya, v.15, no.6, 1963, 839-840

TOPIC TAGS: inert gas, excitation, energy transfer, pulse discharge, level population, helium, neon, optical pumping

ABSTRACT: Earlier two of the authors (A.M.Shukhtin and V.S.Yegorov, Vestnik LGU, No.3,1959 and Opt.i spektro,9,794,1960) studied the population of the upper levels of neon at different stages of a pulse discharge. The present paper gives some of the results of a similar investigation, also by the Rozhdestvenskiy method of hooks of pulse discharges in mixtures of neon and helium. The discharges were realized in a 15-mm diameter, 60-cm long tube. It was found that the introduction of He results in increase of the peak concentration of Ne in the $2p^53sX_1$ state; at the same time the population of the $1s2s^3S_1$ of He is reduced. The inferred level populations for Ne and He separately at 0.5 and 4 mm Hg pressure and in mixture with

Card 1/2

ACC.NR: AP4009479

the same pressure ratio are given in a table. The increase in the relative number of excited Ne atoms is attributed to energy transfer incident to elastic and inelastic collisions of the He atoms with the other particles of the decaying plasma. The various possible energy transfer mechanisms are discussed. It is concluded that a number of these mechanisms may play a significant role. Orig.art.has: 8 formulas, 1 table and 1 figure.

ASSOCIATION: none

SUBMITTED: 25May63	DATE ACQ: 03Jan64	ENCL: 00
SUB CODE: PH	NR REF SOV: 001	OTHER: 004

Card 2/2

L 7022-65 EWG(j)/EWA(k)/FBD/EWT(l)/EWT(m)/EPF(c)/EEC(k)-2/EPF(n)-2/EEC(t)/EEP/EWA(h)/T/EEC(b)-2/EWP(k)/EWP(q)/EWP(b)/EWA(m)-2 Pf-4/Pi-4/Pl-4/Pn-4/Po-4/Pr-4/Ps-4/Pu-4/Peb LJP(c)/ASD(a)-5/AFWL/AEDC(b)/SSD/RAEM(a)/ESD(gs)/ESD(t)/RAEM(t)
ACCESSION NR: AP4042999 WG/JD S/0051/64/017/001/0154/0156

AUTHOR: Yegorov, V. S.; Kozlov, Yu. G.; Shukhtin, A. M.

TITLE: On the concentrations of excited atoms in pulsed discharges in helium

SOURCE: Optika i spektroskopiya, v. 17, no. 1, 1964, 154-156

TOPIC TAGS: laser power pulsation, pulsed arc, helium neon laser, atomic energy level, excited state, laser

ABSTRACT: Interferometric methods and a double electric probe method were used to measure the concentration of the excited helium atoms at the levels $1s2s(^3S_1, ^1S_0)$ and $1s2p\ ^3P_{0,1,2}$, the concentrations of the charged particles, and the temperature of the electron gas during different stages of a pulsed discharge. The measurements were made in a discharge tube 60 cm long and 14 mm in diameter filled with helium at pressures from 4 to 12 mm Hg. A 10 microsecond current pulse with

Card 1/4

maximum density of several dozen A/cm^2 was produced by discharging a 0.8 microfarad capacitor charged to 1500—2500 V. The concentrations of the excited atoms were determined by the Rozhdestvenskiy hook method near the lines 3889, 3965, and 5876 Å. The time variations of the first excited levels obtained are in full agreement with the relations previously derived for a pulsed discharge in neon (A. M. Shukhtin, V. S. Yegorov, Vestn. LGU, ser. fiz. i khim., no. 16, issue 3, 1959). The recombination coefficient can be obtained from the optical and electrical measurements and is found to be about three orders of magnitude lower in helium than in neon. The reasons for the difference are discussed. The rates of growth of the atom concentrations in the first excited states at the instant directly following the termination of the discharge current were carefully investigated, and the characteristic interference patterns resulting from the jump in the concentration of the excited atoms are interpreted. A comparison of the rates of growth of the concentrations of the excited atoms after termination of the current in pure helium and in a neon-helium mixture shows that collisions of

L 7022-65
ACCESSION NR: AP4042999

0

the second kind do not play an important role in the population of these levels under the experimental conditions. This conclusion agrees with the previous established experimental facts, that the maximum concentration of the excited helium atoms arising after termination of the discharge in the helium-neon mixture are small compared with the concentrations of the atoms of the neon and compared with the maximum values of the concentrations of excited helium atoms observed after termination of the discharge in pure helium. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 20Nov63 ATD PRESS: 3104 ENCL: 01

SUB CODE: EC, NP NO REF SOV: 004 OTHER: 001

Card 3/4

L 7022-65
ACCESSION NR: AP4042999

ENCLOSURE: 01

0

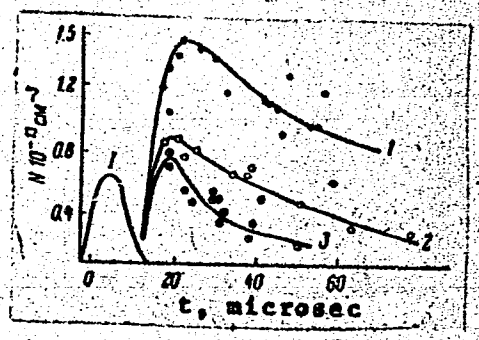


Fig. 1. Dependence of the population of the level 2 $^3S_1$ on the time for different pressures

I - Current pulse; pressure: 1 - 11.2, 2 - 7.3, 3 - 3.8 mm Hg.

Card 4/4

L 16090-66 EWT(d) IJP(c)
ACC NR: AF5027680 SOURCE CODE: UR/0051/65/019/005/0824/0826

AUTHOR: Shukhtin, A. M.

37
B

ORG: none

TITLE: A method of processing of interferograms with hooks

SOURCE: Optika i spektroskopiya, v. 19, no. 5, 1965, 824-826

TOPIC TAGS: interferometer, absorption line, calculation

16, 44, 55

ABSTRACT: In the processing of interferograms the following equation of Rozhdestvenski is often used: $N\lambda = \frac{A}{\lambda^2} K(\lambda_{sp.} - \lambda'_{sp.})^2$,

where $A = \frac{\pi mc^2}{e^2 d}$; $\lambda_{sp.} - \lambda'_{sp.} = \Delta$ is the wave length distance between the vertices of the hooks; $K = \frac{p\lambda}{\Delta\lambda}$ is the so-called method constant; d is the width of the

Card 1/2 UDC: 535.417

2

ACC NR: AP5027680

layer of the absorbing gas and λj is the length of the wave of the absorbing line. The value of Nf is then obtained in terms of the distances between the vertices of the hooks. The author shows that besides the vertices of the hooks some other aspects of the interferogram can be used for determining the value of Nf. Especially the hook-like strips can be used, seen in the neighborhood of the absorption line, on the right and on the left of which segments of strips appear with truncated vertices. Orig. art. has: 2 figures and 5 formulas.

SUB CODE: 20,12/ SUBM DATE: 10Apr65

Card 2/2 SM

L 41132-66 EWT(1)

ACC NR: AP6025969 SOURCE CODE: UR/0051/66/021/001/0122/0124

59
58
B

AUTHOR: Tibilov, A. S.; Shukhtin, A. M.

ORG: none

TITLE: Generation of radiation on sodium lines

SOURCE: Optika i spektroskopiya, v. 21, no. 1, 1966, 122-124

TOPIC TAGS: gas discharge plasma, sodium, electromagnetic wave generation, plasma decay

ABSTRACT: Using a device analogous to the one described earlier (A. S. Tibilov, Opt. i spektr. 19, 833, 1965), the authors obtained pulsed generation on the lines Na I $\lambda = 1.1404\ \mu$ ($4s^2S_{1/2} \rightarrow 3p^2P_{3/2}$), $\lambda = 1.1382\ \mu$ ($4s^2S_{1/2} \rightarrow 3p^2P_{1/2}$). In contrast to cadmium and zinc, where the generation begins 20-30 μsec after the discharge current is cut off, in sodium the generation arises in the discharge itself approximately 2 μsec after its start and continues for about 10 μsec. The duration of the generation is independent of the duration of the current pulse if the latter lasts less than 10 μsec. This suggests that the time of the generation after the current is cut off is not equal to the time of plasma decay, and that during the latter, an unfavorable ratio of atomic concentrations arises at the generating levels. In this connection, a study was made of the variations with time in the properties of decaying plasma which affect the character of the generation when the latter is reexcited. The observations were made by using the total radiation of the components of the doublet

Card 1/2

L 41132-66

ACC NR: AP6025969

1.1404 and 1.1382 μ. Generation was found to begin and end on both components simultaneously, and the generation pulse amplitude for the strong component proved to be many times greater than that for the weak component. Reasons for the appearance of generation on the lines of the indicated doublet with lower levels $3p^2P_{1/2,3/2}$ and not on other lines are discussed. Authors thank S. E. Frish for discussing the article and his interest in this work. Orig. art. has: 1 figure. [27]

SUB CODE: 20/ SUBM DATE: 12Jan66/ ORIG REF: 003/ OTH REF: 001 / ATD PRESS: 5054

Card 2/2 hs

ACC NR: AP7004136 SOURCE CODE: UR/0051/67/022/001/0009/0013

AUTHOR: Yegorov, V. S.; Skrebov, V. N.; Shukhtin, A. M.

ORG: none

TITLE: Concentrations of excited atoms in pulsed discharges in mercury vapor

SOURCE: Optika i spektroskopiya, v. 22, no. 1, 1967, 9-13

TOPIC TAGS: mercury, electric discharge, atomic spectrum, excitation energy, level population, radiative recombination

ABSTRACT: Using an experimental setup described earlier (Opt. i spektr. v. 2, 543, 1957) the authors used the Rozhdestvenskiy hook method to measure the populations of the first excited levels of mercury atoms $6s6p\,^3P_{0,1,2}$ in different phases of a short-duration current pulse. The hooks were photographed near the visible triplet of mercury ($7\,^3S_1 - 6\,^3P_{0,1,2}$) and also near certain lines lying in the near ultraviolet region of the spectrum and corresponding to the transitions $6\,^3D_{1,2,3} - 6\,^3P_{0,1,2}$. The pressure range was 0.01 - 1 mm Hg, with the most complete data on the concentrations of the excited atoms obtained at 0.2, 0.5, and 1 mm Hg. The population of the first excited levels first increases with the current and the discharge, reaches a certain maximum value ahead of the maximum of the current, and then decreases on approaching the trailing edge of the pulse. At the instant of termination of the discharge, a sharp growth in the concentration of the atoms of mercury at the first excited states is observed. The resultant maximum value of the concentration of atoms is much

UDC: 537.523/.527: 546.49

Card 1/2

ACC NR: AP7004136

larger than the corresponding value in the discharge itself, after which, with increasing distance from the trailing edge of the pulse, the population of the levels decreases more or less rapidly. The results are interpreted on the basis of data previously obtained by the authors (Opt. i spektr. v. 20, 382, 1966) regarding the mercury vapor density and the density of the charged particles in different phases of a pulsed discharge. A numerical estimate (~10^{-10} cm^3/sec) is obtained for the coefficient of volume recombination at the typical values of the other parameters of the experiment. In addition to measurements by the hook method, the concentrations of the charged particles, the temperatures of the electron gas, and the time variation of the luminescence of many spectral lines of the mercury were also measured. These observations have shown that although the population of the different excited levels of mercury in a decaying discharge plasma is determined essentially by impact-radiative recombination, there are other mechanisms influencing the population of at least some of the levels. The relative importance of these processes calls for further study. Orig. art. has: 3 figures and 2 formulas.

SUB CODE: 20/ SUBM DATE: 19Jun65/ ORIG REF: 004/ OTH REF: 004

Card 2/2

SHUKHTIN, Ivan Mikhaylovich

[Some aspects of the functioning of the economic law of payment in accordance with work done on collective farms] Nekotorye osobennosti deistviia ekonomicheskogo zakona raspredeleniia po trudu v kolkhozakh. Leningrad, Ob-vo po raspr. polit. i nauchn. znanii RSFSR, Leningr. otd-nie, 1959. 36 p. (MIRA 14:8)
(Collective farms—Income distribution)

SHUKHTINA, A.M., Cand Med Sci--(diss) "~~Characteristics~~ Peculiarities of the course of ~~the hypertonic disease~~ hypertension in ~~young people~~ youth (according to ~~the~~ polyclinical data)." Len, 1958. 16 pp (Min of Health RSFSR. First Len Med Inst im Acad I.P. Pavlov), 200 copies (KL,26-58,118)

SHUKHTINA, A.M.

Features of the course of hypertension in young adults; polyclinical data. Sov.med. 22 no.3:37-42 Mr '58. (MIRA 11:4)

1. Iz fakul'tetskoy terapevticheskoy kliniki (zav. - prof. T.S. Istamanova) i terapevticheskogo otdeleniya polikliniki I Leningradskogo meditsinskogo instituta imeni akad. I.P.Pavlova.
(HYPERTENSION, manifest.
clin.manifest. in young adults (Rus))

SHUKHTINA, A.M. (Leningrad)

Electrocardiographic changes in hypertension in young persons.
Kaz. med. zhur. no. 4:87 Jl-Ag '60. (MIRA 13:8)
(HYPERTENSION) (ELECTROCARDIOGRAPHY)

SHUKHTINA, A.M.; YEDLINA, Ye.A.

Changes in the fundus oculi in the early stages of hypertension in young persons; from polyclinical data. Sov.med. 24 no.3:55-59 Mr '60. (MIRA 14:3)

1. Iz fakul'tetskoy terapevticheskoy kliniki (zav. - prof. T.S. Istamanova) i poliklinikiI Leningradskogo meditsinskogo instituta imeni I.P.Pavlova (glavnyy vrach - kand.med.nauk A.M.Shukhtina.
(HYPERTENSION) (EYE--DISEASES)

27052-66 EWT(1)/EWT(m)/EPF(n)-2/EWP(t)/ETI JD/WW/JG

ACC NR: AP6011550 SOURCE CODE: UR/0051/66/020/003/0382/0386

AUTHOR: Yegorov, V. S.; Skrebov, V. N.; Shukhtin, A. M.

ORG: none

TITLE: Concentrations of normal atoms in the case of a pulsed discharge in metal vapor

SOURCE: Optika i spektroskopiya, v. 20, no. 3, 1966, 382-386

TOPIC TAGS: metal, vapor state, dc discharge, atomic property, mercury, cesium, physical diffusion

ABSTRACT: This is a continuation of earlier work (Izv. AN SSSR ser. fiz. v. 19, 15, 1965 and earlier) on the effect of a dc discharge in metal vapor on the concentration of the normal atoms on the axis of the discharge gap. The present study, aimed at determining the rate of variation of the concentration of the normal atoms after the discharge current is turned on, is devoted to measurement of the concentration of the normal atoms of cesium and mercury vapor in different phases of a current pulse of duration 5 - 20 μsec and at current densities 1 - 100 a/cm². The Hook method was used to measure the concentrations of the normal atoms. The experimental setup was described elsewhere (Opt. i spektr. v. 4, 543, 1957). Under certain conditions, an appreciable decrease in the concentration of the normal atoms and of the density of matter in the axial part of the discharge tube were observed upon passage of the current pulse. It is assumed that the most likely cause of this decrease is ioniza-

UDC: 537.523/.527 + 539.18

Card 1/2

L 27052-66

ACC NR: AP6011550

tion of the metal vapor atoms. The density of the material decreases because of the drift of the charged particles to the walls in the form of ambipolar diffusion current. This radial transport of matter causes appreciable inhomogeneities in the distribution of the metal over the cross section of the discharge tube. Orig. art. has: 2 figures, 1 formula, and 2 tables.

SUB CODE: 20/ SUBM DATE: 08Feb65/ ORIG REF: 007/ OTH REF: 001

Card 2/2

SHUKHTINA, G.G.

Seasonal variations of the thermostability of the cells of some plants of the Khibiny Mountains. Bot.zhur. 47 no.1:100-105 Ja '62. (MIRA 15:2)

1. Polyarno-Al'piyskiy botanicheskiy sad Kol'skogo filiala AN SSSR, Kirovsk.
(Khibiny Mountains--Plant temperature)

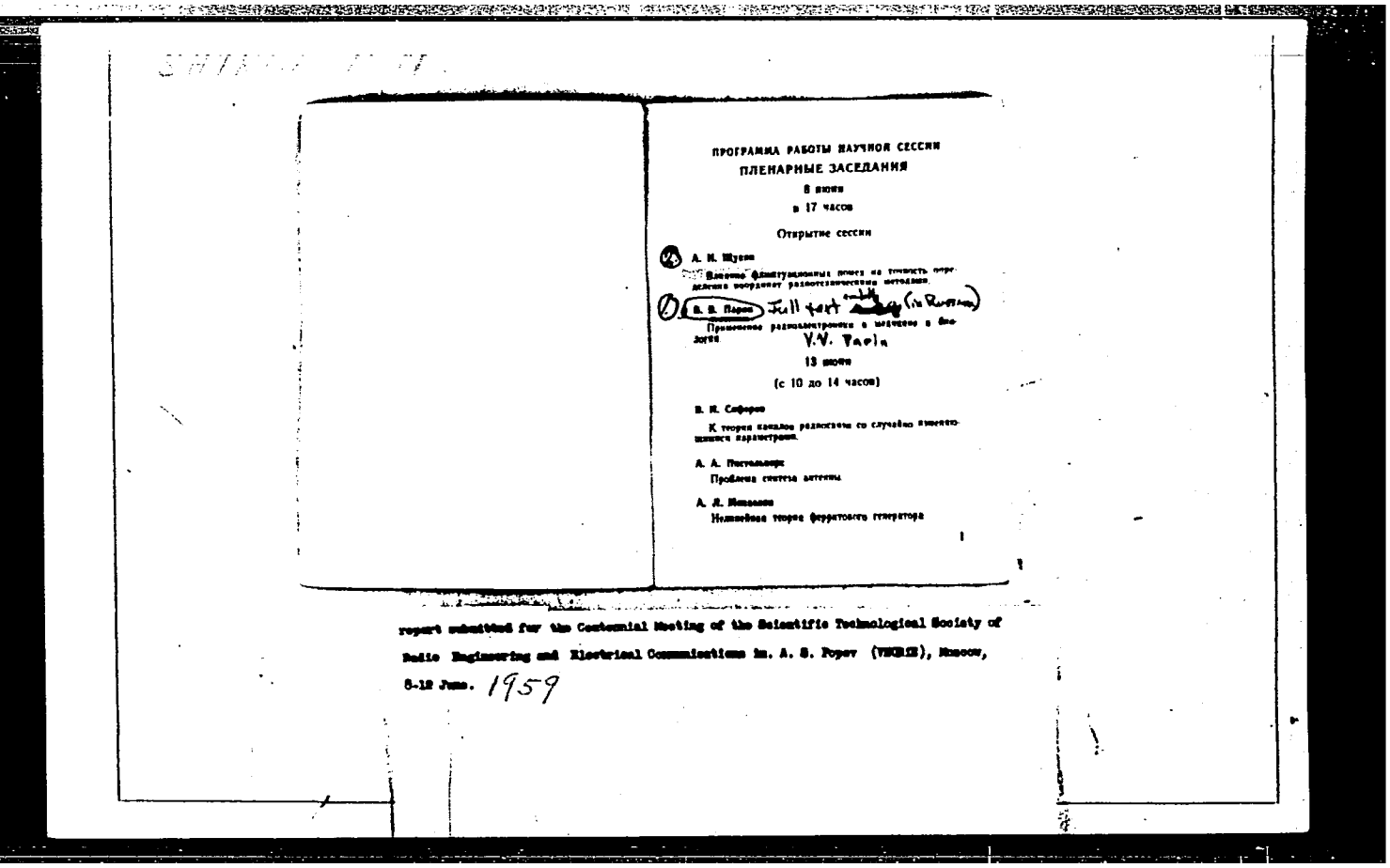
SHUKHTINA, G.G.

Effect of environmental temperature on the leaf cell thermostability of Catalpa speciosa Warder and some other plants. Bot. zhur. 50 no.9:1310-1317 S '65. (MIRA 18:10)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

KURKUDYM, F.Ye.; KARAYEV, R.G.; BELEN'KIY, M.S.; ZAVALI, L.A.; KOVALEVA, M.T.; SOVETOV, V.N.; SOKOLOV, A.V.; SHUKHTINA, I.A.

Professor V.V.Guk on his 70th birthday. Vop. kur., fizioter. i lech. fiz. kul't. 25 no.2:184-185 Mr-Ap '60. (MIRA 13:9)
(GUK, VADIM VASIL'EVICH, 1889-)



ПРОГРАММА РАБОТЫ НАУЧНОЙ СЕССИИ

ПЛЕНАРНЫЕ ЗАСЕДАНИЯ

8 июня

в 17 часов

Открытие сессии

А. И. Щукин

Влияние флюктуационных помех на точность определения координат радиотехническими методами

В. В. Пархоменко Full text (in Russian)

Применение радиоэлектроники в медицине и биологии V.V. Parin

13 июня

(с 10 до 14 часов)

В. И. Сифоров

К теории каналов радиосвязи со случайно изменяющимися параметрами

А. А. Пистолькорс

Проблема синтеза антенны

А. Л. Минц

Нелинейная теория ферритового генератора

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNOIRE), Moscow, 8-12 June. 1959

KHOTSYANOV, L.K., professor; SHUKIN, B.N., dotsent

Problems of injuries; from materials of the eleventh session of the general meeting of the Academy of Medical Sciences of the U.S.S.R. Vest.AMN SSSR 12 no.4:9-19 '57. (MIRA 10:10)

1. Chlen-korrespondent AMN SSSR (for Khotsyanov)
(ACCIDENTS--PREVENTION)

ROZHANSKIY, V. N., GORUNOV, G. V., SCHUKIN, E. D., PERTSOV, KN. V.
Moscow University, Institute of Physical Chemistry of the Acad. Sci., USSR, Moscow.

"Unhomogeneous Plastical Deformation and the Effect of Surface-Active Mediums on the Mechanical Properties of Crystals."

Paper submitted at
Program of the Conference on the Non-Metallic Solids of Mechanical Properties."Leningrad
May 19 - 26, 1958.

11

SHUKIN, E. D.

by Z. G. Pinsker ("Basis of diffractional methods of investigation of perfect crystals"), B. M. Rovinskiy and L. M. Rybakova ("Investigation of dependence of mechanical properties on characteristics of structure of metals"-), L. M. Utevskiy and P. M. Usikov ("Application of microscopy in investigation of structure of alloys"), A. A. Predvoditelev and N. A. Tyapunina ("Role of reproduction of dislocations in process of plastic flow"), A. V. Pertsov, N. V. Pertsov and E. D. Shukin "Self-producing internal dispersion of metals under action of strongly superficially-active metallic melting") and I. L. Mirkin ("Problems of structural investigations, advanced by requirements of progress of technology").

reports presented at the 3rd Intervuz Conference on Strength and Ductility of Metals, Petrozavodsk State University, 24-29 June 1963.
(reported in Fizika Metallov i Metallovedeniye, Vol. 16, No. 4, 1963, p 640.
JPRS 24,651 19 May 1964.

SHUKIN, M.N., inzhener.

New developments in Soviet diesel locomotive construction. Elek. i tepl. tiaga no.2:5-7 F '57. (MLRA 10:5)

1. Nachal'nik Tekhnicheskogo upravleniya Ministerstva transportnogo mashinostroyeniya SSSR.
(Diesel locomotives)

Investigation of some semiconducting compounds of the type $B_2^{I}B^{IV}_3{}_3^{VI}$.
L. I. Berger, N. A. Bul'onkov (10 minutes).

Investigation of solid solutions InSb-InAs. . I. K. Shukina, T. I. Kholmakova, V. G. Vinogradova, O. V. Mlodzeyevskaya, Yu. V. Oboznenko, L. M. Skhol'nikova (10 minutes).

Report presented at the 3rd National Conference on Semiconductor Compounds, Kishinev, 16-21 Sept 1963

SAVITSKAYA, N.V.; SHUKINA, M.N.

Synthesis of 3-(β-aminoethyl)indazole. Zhur. ob. khim. 31 no.3:1015-1018 Mr '61. (MIRA 14:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Indazole)

SHUKINA, N. T.

PA 1/50T44

USSR/Medicine - Pathology
Societies

Jul/Aug 49

"In the Moscow Society of Pathophysiologists," N. T. Shukina, Secy, 1 p

"Arkh Patol" No 4

At meetings of 28 - 29 Dec 48, among the reports read were: I. M. Neyman's "The Pathophysiological Significance of a Seat of Acute Inflammation," and I. A. Arshavskiy's "Physiological Mechanisms of Age Reactivity, Inflammatory Reaction and Natural Immunity in Ontogenesis." Other speakers were: V. P. Mikhaylov, A. A. Terekhoza,

[redacted] 1/50T44

USSR/Medicine - Pathology (Contd) Jul/Aug 49

N. N. Sirotinin, V. D. Rozanova, I. M. Charnyy, S. M. Leytes, and S. M. Pavlenko.

[redacted] 1/50T44

SHUKIS, V. I.

SHUKIS, V. I. "Investigation of alder tannins." Inst of Chemistry and Chemical Technology, Acad Sci Lithuanian SSR. Vil'nyus, 1956
(Dissertation for the Degree of Candidate in Chemical Science)

So: Knizhnaya letopis' No. 24, 1956

Shukla B.

21(8) 5(0)

SOV/55-59-3-29/32

AUTHOR: Lapitskiy, A.V.

TITLE: The First All-Union Conference of Universities and Colleges on Radiochemistry

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1959, Nr 3, pp 221-223 (USSR)

ABSTRACT: This conference was convened by the initiative of the laboratoriya radiokhimii khimicheskogo fakul'teta MGU (Laboratory of Radiochemistry of the Department of Chemistry of Moscow State University) and was held in Moscow from April 20 to April 25, 1959. It was attended by professors, teachers, and scientific collaborators of 32 universities and colleges of the Soviet Union. In his opening address, An.N.Nesmeyanov, Doctor of Chemical Sciences, stressed the importance of radiochemistry. 30 lectures were delivered by members of Moscow State University: Laboratoriya yadernoy fiziki (Laboratory of Nuclear Physics) N.P.Rudenko. A.I.Sevast'yanov: Production of Beryllium-7 by the Reaction (T,2n); I.Stary, N.P.Rudenko: Production of Radioactive Isotopes by Extraction as β-Diketonates. Laboratoriya radiokhimii (Laboratory of Radiochemistry): An.N.

Card 1/4

Nesmeyanov, B.M. Korolev, L.A.Sazonov: Separation of Radioactive Isotopes in the Irradiation of Colloids; An.N.Nesmeyanov, Ye.A.Borisov, E.S.Filatov, V.Kondratenko, Chzhan Tszi-syan, K.Panek, B.Shukla: Secondary Reactions of the Recoil Atoms ^{80}Br and ^{82}Br in Methyl Bromides; B.G.Dzantiyev, I.M.Barkalov, V.V.Khrapov: Reactions of "Hot" Sulfur- and Nitrogen Atoms With Hydrocarbons; B.Z.Iofa, L.V.Bobrov, A.N.Ratov: The State of Radioactive Isotopes in Extremely Dilute Solutions; M.S. Merkulova, I.V.Melikhov: General Theory of the Coprecipitation of Radioactive Elements With Non-isomorphous Crystalline Precipitates; A.V.Lapitskiy, T.A.Savich, Chzhan Ya-uy: Coprecipitation of Protactinium With Complex Compounds of Ti, Nb, and Ta; V.M.Fadeyev, V.V.Ivanenkov, V.N.Bochkarev: Application of Radioactive Paper Chromatography"; K.B. Zaborenko, A.M.Babeshkin, M.S.Aul'chenko: Accumulation and Separation of Recoil Atoms on the Basis of the Example Ra^{224} and Ra^{220}; K.B.Zaborenko, A.M.Babeshkin, V.A.Beyevskaya, L.L.Melikhov: Application of the Emanation Method for the

Card 2/4

Investigation of the Transformation of Solids; V.I.Spitsyn, K.B.Zaborenko, A.M.Babeshkin, M.A.Radicheva: Transformation of Heteropoly-compounds; K.B.Zaborenko, A.M.Babeshkin, I.T. Kovalenko: Geochemistry of Radium; K.B.Zaborenko, V.I. Korshkov: Microanalytical Determination of Uranium by Means of Nuclear Emulsions. An.N.Nesmeyanov, Do Dyk-Man: Partial Vapor Pressure of Co in Alloys With Ni; Yu.A.Priselkov, Yu.A. Sapozhnikov, A.V.Tseplyayeva, V.V.Karelin: The Behavior of a Molecular Metal Beam in the High-frequency Field; I.V.Golubtsov, A.V.Lapitskiy, V.K.Shiryayev: Vapor Pressure of Niobium Dioxide; I.V.Golubtsov, Yu.A.Likhachev, Ye.K.Bakov: Various Constructions of the Scintillation Attachment to the Apparatus of the Type B. Kafedra analiticheskoy khimii (Chair of Analytical Chemistry): I.P.Alimarin, N.P.Borzenkova: Niobium^{95} as a Radioactive Tracer; I.P.Alimarin, T.A.Belyavskaya, Nu Bin-ven': Sorption of Zr by Ion Exchangers; A.I.Busev, V.M. Byr'ko: The Use of Complex Pyrazolindithiocarbamates in Radiometry. Kafedra neorganicheskoy khimii (Chair of Inorganic Chemistry): Ye.A. Ippolitova, Yu.P.Simanov, L.M.Kovba, G.P. Polunina, I.A. Bereznikova: Uranates of Some Bivalent Metals;

Card 3/4

V.G.Knyagina, O.G. Nemkova: Uranium Compounds With Acids of Low-valence P; V.I. Spitsyn: The Influence of the Radioactive Radiation of Solids on Their Physico-chemical Properties; I.Ye.Mikhaylenko, V.I.Spitsyn: Isotope Exchange in the System $K_2SO_4 - SO_3$ at High Temperature. Kafedra khimicheskoy kinetiki (Chair of Chemical Kinetics): I.V.Berezin, V.L.Antonovskiy, N.F.Kazanskaya: Application of Tritium for the Purpose of Determining the Velocity Constants of the Separation of Organo-hydrogen Compounds. An.N.Nesmeyanov delivered a detailed lecture on the Methodology of Radiochemical Instruction at the chemical departments of universities.

SHUKLA, B. N., NESMEYANOV, A. N., FILATOVE, E. S., BORISOV, Ye. A. (USSR)

"Isotope Effect and Secondary Reactions of Bromine Recoil Atoms Accompanying (n,γ') Process".

paper submitted for the Symposium on the Chemical Effects of Nuclear Transformation (IAEA) Prague, 24-27 Oct. 1960.

NESMEYANOV, An.N.; BORISOV, Ye.A.: FILATOV, E.S.; KONDRATENKO, V.I.; CHZHAN TSZE-SYAN[Chang Chieh-hsiang]; PANEK, K.; SHUKLA, B.V.

Secondary reactions of the recoil atoms bromine-82 and bromine-80m in bromomethanes. Radiokhimiia 1 no.6:712-716 '59. (MIRA 13:4)

(Bromine--Isotopes) (Methane)

2/371
S/169/61/000/006/034/039
A005/A130

3,2410

AUTHORS: Biswas, S., Lavaker, P.Dzh., Nilakantan, K.A., Shukla, P.G.

TITLE: The energy spectrum of heavy nuclei of primary cosmic radiation

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 6, 1961, 12, abstract 6G84. (Tr. Mezhdunar. konferentsii po kosmich. lucham, 1959, T. 3. Moscow, AN SSSR, 1960, 116-125)

TEXT: The authors studied the energy spectrum of nuclei of group M ($6 \leq Z \leq 9$) and group H ($Z \geq 10$) within the energy range 0.23-9 Bev/nucleon. The photoemulsion pile was exposed over Iowa (USA) on March 13, 1956 at an altitude of 34 km (6.1 g/cm^2). The energy of the charged particles was determined by the δ-electron method, i.e., from the density, angle of emission and energy of δ-electrons. The integral energy spectrum of the primary nuclei has the form: $N(\geq E) = C/(1+E)^m$, where N is the number of particles whose kinetic energy (expressed in Bev/nucleon) is higher than E, C is a constant, and $m = 1.65 \pm 0.30$ for group M and $m = 1.78 \pm 0.35$ for group H. Since the values of the exponents coincide with

Card 1/2

29371
S/169/61/000/[illegible]/[illegible]
A005/A130

The energy spectrum of heavy nuclei ...

in the limits of the experimental uncertainty, a general exponent 1.70 ± 0.25 was obtained for the heavy nuclei of group S($Z \geq 6$) within the energy range 0.23-9 Bev/nucleon. This value of m is close to the value obtained for α-particles (m=1.5). Therefore it is assumed that all components of the heavy nuclei of primary cosmic radiation have the value of exponent m. The minimum energy of recorded group M [illegible] characterizes the geomagnetic cutoff threshold at the given latitude equal to 230 Bev/nucleon. For the stream of heavy nuclei at the boundary of the atmosphere the following values were obtained: $I(M) = 9.7\ m^{-2} \cdot sec^{-1} \cdot steradian^{-1}$, $I(H) = (5.3 \pm 0.6)\ m^{-2} \cdot sec^{-1} \cdot$ [illegible], and $I(S) = (15.8 \pm 1.0)\ m^{-2} \cdot sec^{-1} \cdot steradian^{-1}$. The stream of group [illegible] was about 30% lower than normal. This decrease of the stream of heavy nuclei is obviously connected with the large decrease of intensity of the Forbush type that was observed in the neutron component of cosmic rays on the earth's surface during the carrying out of the experiment.

N. Kaminer

[Abstractor's note: Complete translation.]

Card 2/2

SHUKLETSOV, V.T.; FEDOSOV, P.M., dotsent, nauchnyy red.; MURASHEV, A.A., red.

[Organizational and economic consolidation of collective farms, and the rise in the material prosperity of the collective-farm peasantry from 1953-1957; based on data for Novosibirsk Province] Organizatsionno-khoziaistvennoe ukreplenie kolkhozov i pod"em material'nogo blagosostoianiia kolkhoznogo krest'ianstva v 1953-1957 godakh; po materialam Novosibirskoi oblasti. Moskva, Izd-vo VPSh i AON pri TsK KPSS, 1960. 65 p. (MIRA 13:5)
(Novosibirsk Province--Collective farms)

PERELYGIN, Leonid Mikhaylovich; SHUKLIN, A.V., redaktor; PITERMAN, Ye.L., redaktor izdatel'stva; KARASIK, N.P., tekhnicheskiy redaktor

[Science of wood and forest products] Drevesinovedenie i lesnoe tovarovedenie. Moskva, Goslesbumizdat, 1954. 346 p. (MLRA 9:8)
(Wood) (Lumber)

KHUKHRYANSKIY, Pavel Nikolayevich, doktor tekhnicheskikh nauk; SHUKLIN, A.V., redaktor; FEDOROV, B.M., redaktor; KARASIK, N.P., tekhnicheskiy redaktor.

[The strength of wood] Prochnost' drevesiny. Moskva, Goslesbumizdat, 1955. 150 p. (MLRA 8:4)
(Wood testing)

LAPIROV-SKOBLO, Samuil Yakovlevich, prof., doktor sel'skokhoz.nauk. Prinimal uchastiye SMIRNOV, A.V., kand.tekhn.nauk. SUDNITSYN, I.I., dotsent, retsenzent; SHUKLIN, A.V., red.; SHAKHOVA, L.I., red.izd-va; PARAKHINA, N.L., tekhn.red.

[Forest products; a commercial guide] Lesnoe tovarovedenie. Izd.2., perer. i dop. Moskva, Goslesbumizdat, 1959. 435 p. (MIRA 13:4)

(Forest products)

SHUKLIN, B.G.

Case of a leiomyoma of the stomach simulating a perforating ulcer. Sbor. trud. Kursk. gos. med. inst. no.16:380-382 '62. (MIRA 17:9)

1. Iz kliniki gospital'noy khirurgii (zav. - prof. A.V. Kholod) Kurskogo meditsinskogo instituta.

KHOLOD, A.V.; ASTAF'YEV, V.I.; FIRSOV, Ye.F.; SHUKLIN, B.G. (Kursk)

Diagnosis and treatment of diaphragmatic relaxation. Klin. med. 41 no.4:25-32 Ap '63. (MIRA 17:2)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. A.V. Kholod) Kurskogo gosudarstvennogo meditsinskogo instituta, Oblastnoy klinicheskoy bol'nitsy No.1 (glavnyy vrach L.A. Chunikhin) i Oblastnogo onkologicheskogo dispansera (glavnyy vrach T.S. Kondrasheva), Kursk.

SHUKLIN, B.G.

Methodology of transbronchial aspiration puncture of bifurcation lymph nodes under intravenous anesthesia with the use of muscle relaxants. Sov. med. 28 no.3:7-10 Mr '65.

(MIRA 18:10)

1. Gospital'naya khirurgicheskaya klinika Kurskogo meditsinskogo instituta (zav. - prof. [illegible].Kholod) i oblastnaya klinicheskaya bol'nitsa (glavnyy vrach - L.A. [illegible]nikhin).

SHUKLIN, K.K.; KONYUKHOV, G.I.

"Abstracts of Soviet medical literature" nos. 12 and 13, 1954. Reviewed by K.K.Shuklin, G.I.Koniukhov. Sov.zdrav. 14 no.5: 51-52 S-O '55. (MLRA 8:12)
(MEDICINE--PERIODICALS)

SHUKLIN, N.F., veterinarnyy vrach (g.Kirov (obl.)).

Horse-drawn disinfecting apparatus. Veterinariia 31 no.2:55-57 F '54. (MLRA 7:2)
(Disinfection and disinfectants) (Spraying and dusting equipment)

SHUKLIN, N.F., vet. vrach (g.Kirov, oblastnoy)

Pathogenetic therapy of seborrheic eczema in horses. Veterinariia 35 no.11:45-47 N '58. (MIRA 11:11)
(Horses--Diseases and pests) (Eczema)

SHUKO,V.D., SKURA OV,S.M.,Docent,STREPIKHEYEV,A.A.,Prof,MUROMOVA, R.S., KACHINSKAYA,O.N., BRYKINA,YE.P., SHTREKHER,S.M.

"The Heat of Combustion of Lactams and Amino Acids," a paper given at the All-University Scientific Conference "Lomonosov Lectures," Vst. Mosk. Un., No 8, 1953

Translation U-7895 L Mar 56

[redacted], A. M.

"Black Sea Kale," Priroda, M. 5, 1949.
"Carbusia in Iran," ibid.

ETINGOF, R.N.; SHPEKOLYUKOV, S.A.; LIUNT'YEV, V.G.

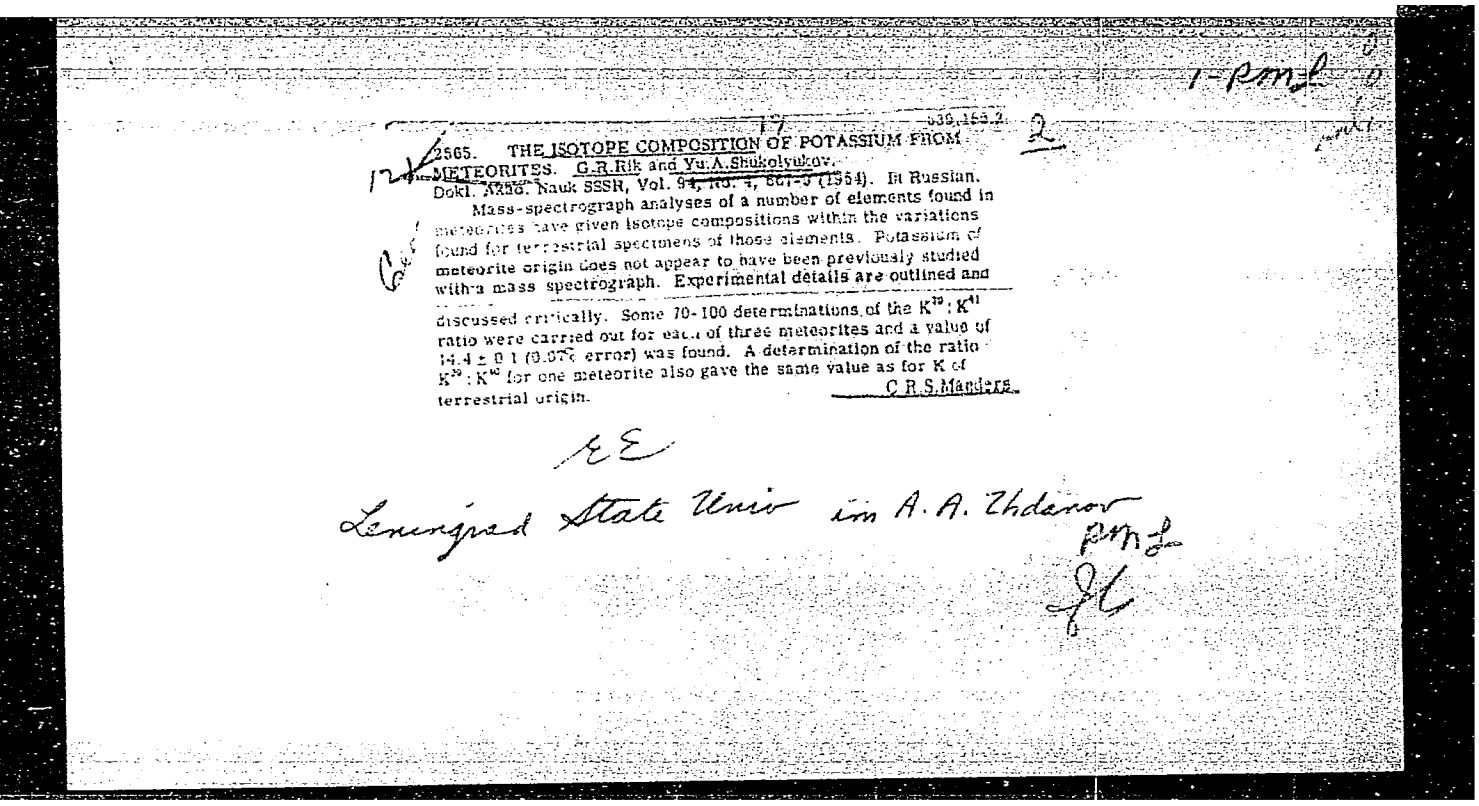
Output of Na and K ions from the external segments of retinal photoreceptors under the influence of illumination and vitamin A. Dokl. AN SSSR 156 no. 4:979-981 Je '64. (MIRA 17:6)

1. Institut evolyutsionnoy fiziologii im. I.M.Sechenova AN SSSR. Predstavleno akademikom V.N.Chernigovskim.

S[illegible]KOLY KOV, Yu. A. and [illegible]IK, G. R.

"The Isotopic Composition of Potassium From Meteorites" Dokl. AN SSSR, 94, No. 4, pp667-669, 1951

Translation D 482382



539.163.2

2565. THE ISOTOPE COMPOSITION OF POTASSIUM FROM METEORITES. G.R.Rik and Yu.A.Shukolyukov. Dokl. Akad. Nauk SSSR, Vol. 94, No. 4, 661-3 (1954). In Russian.

Mass-spectrograph analyses of a number of elements found in meteorites have given isotope compositions within the variations found for terrestrial specimens of those elements. Potassium of meteorite origin does not appear to have been previously studied with a mass spectrograph. Experimental details are outlined and discussed critically. Some 70-100 determinations of the $K^{39}:K^{41}$ ratio were carried out for each of three meteorites and a value of 14.4 ± 0.1 (0.07% error) was found. A determination of the ratio $K^{39}:K^{40}$ for one meteorite also gave the same value as for K of terrestrial origin.

C.R.S.Manders.

EE

Leningrad State Univ im A. A. Zhdanov

SHUKOLYUKOV, Yu.A.

Application of the argon method to a nomogram and slide rule for calculating the age of rocks and minerals. Inform.sbor. VSEGEI no.1:142-145 '55. (MLRA 9:12)

(Radioargon dating)

SHUKOLYUKOV, YU. A.

Distr: 4E3d/4E4j

Determination of absolute age from the strontium-87/strontium-86 isotope ratio in sedimentary rocks. E. K. Gerling and Yu. A. Shukolyukov (Lab. Pre-Cambrian Geol. Acad. Sci. U.S.S.R., Leningrad). *Geokhimiya* 1957, No. 3, 187–90.—Report of a study of the isotopic compn. of Sr from 3 samples, viz., from a young celestite from the North Dvina River basin, a coarse-grained calcitic marble from Southern Karelia, and a marble from Marmora Island. From the weighed portion of marble Sr was sepd. by means of an ion-exchange column. HCl (2.5*N*) was used as the wash liquid. Before use the HCl and the water were distd. First of all the position of the Fe, Rb, Ca, Sr and Y peaks were detd. mass spectrometrically. Fe was detd. in the wash soln. colorimetrically. Ca was detd. nephelometrically and by means of radioactive indicators. Sr was converted to the sulfate for detn. mass spectrometrically. The Sr^{87}/Sr^{86} ratio was the same in all 3 samples. During the course of the work it was noticed that appreciable isotopic fractionation occurred during evapn. or ionization of Sr atoms. This was undoubtedly a cause of the unexpectedly large fluctuations in the isotopic compn. of Sr from natural objects. Detn. of isotopic compn. of Sr under the described conditions was not for this reason made with an accuracy greater than 1.5–2%. Results obtained show that use of the Sr^{87}/Sr^{86} isotope ratio as a criterion of age of sedimentary formation is at present not feasible. 17 references.

Gladys S. Macy

SHUKOLYUKOV, Yu.A., Cand Chem Sci -- (diss) "Content and ⊠ isotopic composition of certain products of uranium fission in minerals." Precambrian Len, 1959, 14 pp with drawings (Acad Sci USSR. Laboratory of/Geology Len Tech Inst im Lensovet) 150 copies (KL, 36-59, 113)

ISKANDEROVA, A.D. [translator]; MURINA, G.A. [translator]; MIRKINA, S.L. [translator]; POLEVAYA, N.I. [translator], red.; CHERNOVA, N.N. [translator]; SHUKOLYUKOV, Yu.A. [translator]; KOLOSKOVA, M.I., red.izd-va; GODOVIKOVA, L.A., red.izd-va; AVERKIYEVA, T.A., tekhn.red.

[Radiological methods for absolute age determination; articles translated from the English and the German] Radiologicheskie metody opredeleniia absoliutnogo geologicheskogo vremeni; sbornik statei. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geologii i okhrane nedr, 1959. 181 p. (MIRA 13:10)
(Geological time)

GERLING, E.K.; SHUKOLYUKOV, Yu.A.

Isotope composition and xenon content of uranium minerals. (MIRA 12:8)
Radiokhimiia 1 no.2:212-222 '59.
(Uranium ores) (Xenon)

GERLING, E.K.; SHUKOLYUKOV, Yu.A.; MAKAROCHKIN, B.A.

Determination of the half life of the spontaneous decay of U^{238} from the xenon content of uranium minerals. Radiokhimiia 1 no.2:223-226 '59. (MIRA 12:8)
(Uranium--Decay) (Xenon)

5(2), 5(4)

AUTHORS: Gerling, E. K., Shukolyukov, Yu. A. SOV/75-14-1-21/32

TITLE: Determination of Micro-Quantities of Xenon by Means of a Mass Spectrometer (Opredeleniye mikrokolichestv ksenona pri pomoshchi mass-spektrometra)

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 1, pp 104-107 (USSR)

ABSTRACT: In the practical application of the xenon-method of determining the absolute age of minerals (Ref 1) the main problem to be solved is the separation and measurement of micro-quantities of xenon. In this connection the possibility of using the mass spectrometer MS-2M for the determination of small quantities of xenon (10^{-6} - 10^{-5} cm^3) was investigated. For the purpose of gauging the mass spectrometer standard mixtures of argon and xenon were produced. Production of these mixtures was carried out in a high vacuum apparatus which is illustrated and described in this paper. By means of the mass spectrometer the xenon content was determined in artificial mixtures of varying composition. These mixtures were produced in the same apparatus that was used for gauged mix-

Card 1/3

tures. The mixtures were also adsorbed on active carbon at -183° and were measured after desorption on the mass spectrometer. It was found that in the desorption of active coal a partial separation of argon and xenon occurs because xenon is more firmly bound. Part of the xenon remains adsorbed even at temperatures of 320°. Complete desorption of the xenon could be attained only by a reduction of the quantity of active coal to 0.04 g. Besides, partial adsorption of xenon occurs in the "cooling traps" cooled with liquid air. As this effect may be very great, a "cooling trap" with alcohol and dry ice (-78.5°) must be used for freezing out vapors. Two methods were employed for spectrometric measurement: The pressure method and the method of relative sensitivity. Both methods are explained in this paper. Accuracy is approximately the same in both. In the mass spectrometer pressure amounted to $1.10^{-7} - 2.10^{-7}$ torr. Use of the mass spectrometer MS-2M made it possible to determine $1.10^{-6} - 5.10^{-5}$ cm^3 xenon with an average accuracy of $\pm$ 8%. For the final checking of the reliability of the results obtained the xenon content in the

Determination of Micro-Quantities of Xenon by Means of a Mass Spectrometer

SOV/75-14-1-21/32

uraninite Chernaya Salma was determined. The results obtained were compared with those of previously carried out xenon-determinations by the volumetric method (Ref 1), and results were found to agree well with one another. There are 3 figures, 2 tables, and 1 Soviet reference.

ASSOCIATION: Laboratoriya geologii dokembriya AN SSSR, Leningrad (Laboratory for the Geology of the Precambrium of the AS USSR, Leningrad)

SUBMITTED: November 25, 1957

Card 3/3

21.1000,24.6500

7/215
SOV/89-8-1-9/29

AUTHORS: Gerling, E. K., Sankolynkov, Yu. A.

TITLE: Average Number of Fast Neutrons per Spontaneous Fission of U^{238}. Letter to the Editor

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 1, p 49 (USSR)

ABSTRACT: The average number $\bar{\nu}_{238}$ of fast neutrons per one spontaneous fission of U^{238} is obtained from:

$$\bar{\nu}_{238} = \frac{\Delta n}{\Delta N_{238}},$$

where Δn is number of instantaneous neutrons released by 1 gm of uranium per unit time and ΔN_{238} is number of spontaneous fissions of 1 gm of uranium per unit time. Using accepted values for $\Delta n = (1.65 \pm 0.09) \cdot 10^{-2}$ neutrons/sec·gm U and $\Delta N_{238} = 24.8$ fissions/h·gm U one gets $\bar{\nu}_{238} = 2.4$

Card 1/3

GERLING, Erik Karlovich. Prinimali uchastiye: YASHCHENKO, M.L., starshiy nauchnyy sotrudnik; YERMOLIN, G.M., starshiy nauchnyy sotrudnik; TITOV, N.Ye., mladshiy nauchnyy sotrudnik; AFANAS'YEVA, L.I., mladshiy nauchnyy sotrudnik; KOL'TSOVA, T.V., mladshiy nauchnyy sotrudnik; OVCHINNIKOVA, G.V., mladshiy nauchnyy sotrudnik; SHUKOLYUKOV, Yu.A., mladshiy nauchnyy sotrudnik; LEVSKIY, L.K., mladshiy nauchnyy sotrudnik; MOROZOVA, K.M., mladshiy nauchnyy sotrudnik; MATVEYEVA, I.I., mladshiy nauchnyy sotrudnik; BARKAN, V.G., mladshiy nauchnyy sotrudnik; BARANOVSKAYA, N.V., mladshiy nauchnyy sotrudnik; VARSHAVSKAYA, E.S., mladshiy nauchnyy sotrudnik; SERGEYEV, A.N., starshiy laborant; KURBATOV, V.V., starshiy nauchnyy sotrudnik; KRATTS, K.O., kand.geol.-mineral.nauk, otv.red.; ARON, G.M., red.izd-va; BOCHEVER, V.T., tekhn.red.

[Present status of the argon method for age determination and its use in geology] Sovremennoe sostoianie argonovogo metoda opredeleniia vozrasta i ego primenenie v geologii. Moskva, Izd-vo Akad.nauk SSSR, 1961. 130 p. (MIRA 14:12)

1. Radiyevyy institut im. V.G.Khlopina (for Kurbatov).
(Geological time) (Radioargon dating)